THE IDENTITY OF *ALOE SCHWEINFURTHII* BAK.

By G. W. Reynolds.

(With Plates X and XI.)

Baker (1) founded this species on Schweinfurth's gathering Ser. iii No. 167, the type locality being "Niamniam, at Makporru Hill, May 1870", but the identity of *A. Schweinfurthii* and its precise locality of origin have remained in doubt until recently.

In his third publication, Baker (2) records that the granite hill of Makporru is at lat. 4° 45′ N., long. 28° 30′ E., while Berger (3) stated that Schweinfurth told him that this species had not been introduced alive into Europe.

Schweinfurth's herbarium was destroyed during the war, it appears, but the holotype is at Kew.

Two figures of "*A. Schweinfurthii*" have been published, one in *Gard. Chron.* 23: ser. 3, 197, fig. 16 (1898), the other in *Bot. Mag. t.* 7667 (1899), but these far from represent *A. Schweinfurthii.* Berger refers them both to *A. aethiopica* (Schweinf.) Berger.

It was clear that nothing less than a personal visit to the type locality would ever enable me to establish the identity of this long-"lost" species, but the problem was to find the type locality. Where was Makporru Hill?

Dr. K. N. G. MacLeay, Department of Botany of the University College of Khartoum, very kindly made exhaustive enquiries in the Zande area of the Equatoria Province of the Sudan (the Niamniam-land of Schweinfurth), and also examined various maps, but was unsuccessful in locating any hill bearing the name of Makporru, although there was a small river of that name shown at 4° 50′ N., 28° 40′ E.

The solution was eventually found in Schweinfurth's book *The Heart of Africa*, English translation, 2 vols. London 1873. On 27th May, 1870, Schweinfurth had reached "Mount Baginze", and he records "Masses of brilliant Aloes, with their scarlet and yellow blossoms, grew luxuriantly upon the slopes of gneiss." (Vol. 2, p. 214).

Mount (Jebel) Bangenze can safely be accepted as the type locality. It is situated on the Anglo-Egyptian Sudan—Belgian Congo border, at c. 4° 28′ N., 29° E.

In May 1953, Mr. K. R. M. Anthony, then Acting Senior Research Officer of the Yambio Experimental Farm, specially visited Mt. Bangenze, found masses of Aloe plants in flower, and despatched five plants to me in Johannesburg.

After completing a survey of the Aloes of the eastern portion of the Belgian Congo, I reached Yambio, in the south-western corner of the A.-E. Sudan, on 9th July, 1954. The following day, Mr. E. M. McDermid, the entomologist at Yambio, and Mrs. McDermid, conducted me to Mt. Bangenze. For record purposes, the route from Yambio (320 miles west of Juba) led eastwards along the Maridi and Juba road for 50 miles, thence 17 miles southwards to near a small Zande village called Gbuo, and then along a track for 5 miles to the south-west. From that point, after a walk of two miles through tall-grass woodland, including a few hundred yards struggling through marshy ground densely filled with 15-ft. elephant-grass, Bangenze was reached, near the Congo border. Considerable numbers of only one species of Aloe were found there, many in flower, growing in scanty soil on granite, in shallow pockets or in crevices on slopes. They were *A. Schweinfurthii*, without doubt.

Photographs were secured, a full description prepared, and ample herbarium material gathered for Pretoria, Kew, Brussels and Nairobi.

A. Schweinfurthii can now, fortunately, be fully described and figured:

A. Schweinfurthii Bak. in *Journ. Linn. Soc.* 18: 175 (1880), in Th. Dyer *Fl. Trop. Afr.* 7: 467 (1898), non *Bot. Mag. t.* 7667 (1899); Durand et Schinz *Consp. Fl. Afr.* 312 (1893); Berger in Engler *Pflanzenr.* Liliac.-Aloin. 246 (1908), non *Gard. Chron.* 23: ser. 3, 197, fig. 76 (1898).

Stem none or short, with shoots forming small to large dense groups. *Leaves* 16—20, densely rosulate, the younger erectly spreading, older spreading and recurved in upper quarter, averaging 45 cm. long, (sometimes reaching 50—60 cm.), 6—7 cm. broad at base, gradually tapering to the apex; *upper surface* grey-green with bluish tinge, sometimes reddish-tinged, flat low down, canaliculate upwards, usually with several elongated dull whitish spots in lower third; *lower surface* convex, greyer-green than upper surface, usually with a few dull spots near base; *margins* sinuate-dentate, armed with pungent deltoid teeth which are reddish-brown at apices and paler near base, averaging 4 mm. long, 10—12 mm. distant, slightly hooked forward. *Sap* dries purplish.

Inflorescence a branched panicle averaging 90 cm. high.

Peduncle brown, slender, plano-convex and 15 mm. broad at base, terete upwards, 8—9 mm. thick at the middle, 8—10-branched from the middle or higher, the 1—2 lowest branches sometimes with 1—2 branchlets.

Racemes subdensely to sublaxly flowered, rather narrowly cylindric-conical, the terminal usually the longest and averaging 15 cm. long, 7 cm. diam., the buds suberect, scarlet and slightly grey-tipped, open flowers at first spreading becoming subpendulous.

Bracts small, ovate-acute, averaging 5 mm. long, 2—3 mm. broad at base, subscarious, dirty-white, rather thin, mostly 1-nerved.

Pedicels averaging 13 mm. long, lengthening in the fruit.

Perianth cylindric-trigonous, straight, averaging 28 mm. long, scarlet, turning orange at mouth or throughout, basally very slightly obtusely tapering to the pedicel, cylindrical and 7 mm. diameter across the ovary, thence very slightly narrowed on underside only, cylindric-trigonous above the ovary, the mouth open; *outer segments* free for 12 mm., paler at the edges, 3-nerved to base, the apices acute, spreading; *inner segments* free but dorsally adnate to the outer for half their length, broader than the outer and with 3 crowded nerves forming an orange keel throughout, the apices more obtuse, and more spreading to revolute.

Filaments pale lemon, filiform-flattened, the 3 inner narrower and lengthening before the 3 outer, with their *anthers* in turn exserted 2—3 mm.

Style yellow, with *stigma* at length exserted 4—5 mm.

Ovary brownish olive, 5 mm. long, 2·5 mm. diam. (Plate X.)

MATERIAL: *A.-E. Sudan:* Equatoria Prov., on Mt. Bangenze near the Belgian Congo border at c. 4° 28′ N., 29° E., alt. 2,600 ft., fl. 10 July 1954, Reynolds 7284 (PRE, K, BR, EA).

Belgian Congo: Oriental Prov., Kibali-Ituri Dist., Faradje Territory, 6 miles east of Aba, fl. 13 July 1954, Reynolds 7489 (PRE, K, B, BR).

NATIVE NAME: *Ranga* or *Rangambia* in the Azande tongue.

DISTRIBUTION: *A.-E. Sudan:* Equatoria Prov., 5 miles east of Yambio; Mt. Bangenze; Loka West. *Belgian Congo:* Oriental Prov., near Doruma; Kurukwata, Faradje Dist., near the Sudan border; Bagbele, north-east of Dungu, near the Sudan border; abundant between Aba and the Sudan border; near Watsa; abundant on hills 9 miles west of Adranga, 68 miles east of Watsa.

AFFINITIES: *A. Sereti* De Wild., from 6 miles north of Irumu, Belgian Congo, is a near ally, but differs in having mostly 3-branched inflorescences, and racemes with imbricate bracts entirely or partly obscuring the buds. *A. mubendiensis* Christian, from the Toro District of the Western Province of Uganda, is another close ally, but is distinguished by having a more branched inflorescence with more divaricate branching, and denser racemes with the flowers slightly secund.

REFERENCES.

(1) *Journ. Linn. Soc.* 18: 175 (1880).
(2) *Bot. Mag. t.* 7667 (1899).
(3) Engler *Pflanzenreich* Liliac-Aloin. 246 (1908).

ACKNOWLEDGMENTS.

I am indebted to:

The Director and Mr. E. Milne-Redhead of Kew, for photographs of the holotype at Kew (Schweinfurth's ser. iii, No. 167, *A. Schweinfurthii* Bak.).

Dr. K. N. G. MacLeay, Dept. of Botany, University College of Khartoum for endeavouring to trace the locality of Makporru Hill, and for plants from Loka West and elsewhere in the Sudan.

Mr. K. R. M. Anthony, Senior Research Officer of the Yambio Experimental Farm, for making a special journey to Mt. Bangenze in 1953 to collect specimens and send them to Johannesburg, and for much other assistance.

Mr. E. M. McDermid, Entomologist at Yambio, for arranging transport and conducting me to Mt. Bangenze, and for providing several other facilities.

To the South African Council for Scientific and Industrial Research, I am indebted for a travelling grant which enabled me to undertake an expedition of 11,700 miles through the Belgian Congo to the Sudan and back, investigating the Aloes of Tropical Africa, of which *A. Schweinfurthii* Bak. was one.

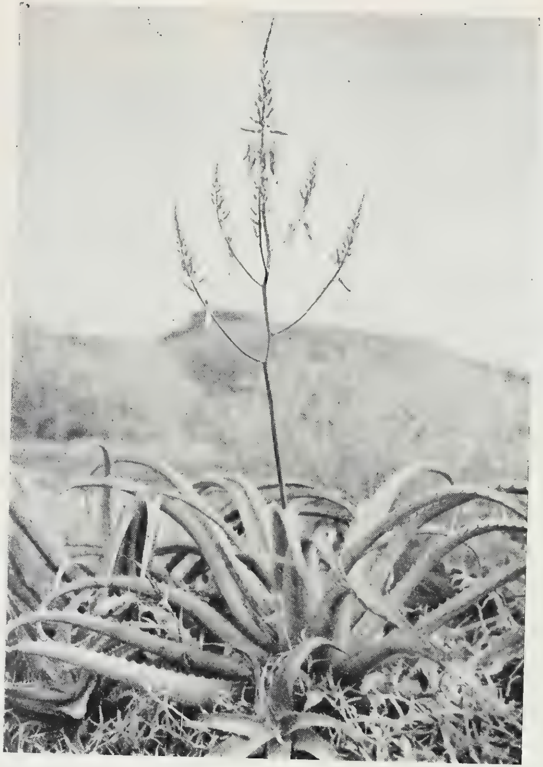

Fig. 1.

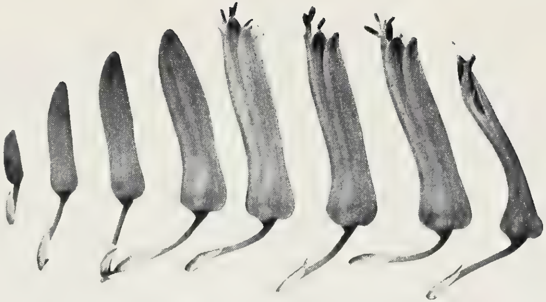

Fig. 2.

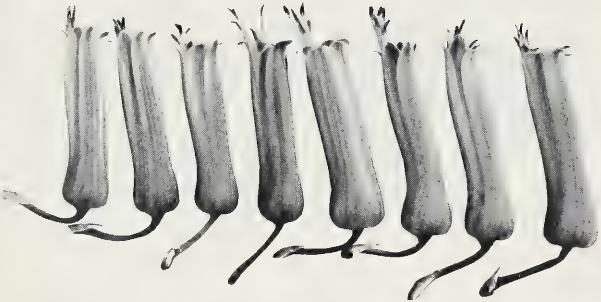

Fig. 3.

Plate X. *Aloe Schweinfurthii* Bak.

Fig. 1. Flowering plant on Mt. Bangenze, Equatoria Prov., Anglo-Egyptian Sudan, fl. 10 July, 1954. Height 90 cm.
Fig. 2. Flowers 1/1 from bud to post-pollination stages.
Fig. 3. Various flowers 1/1, showing variation.

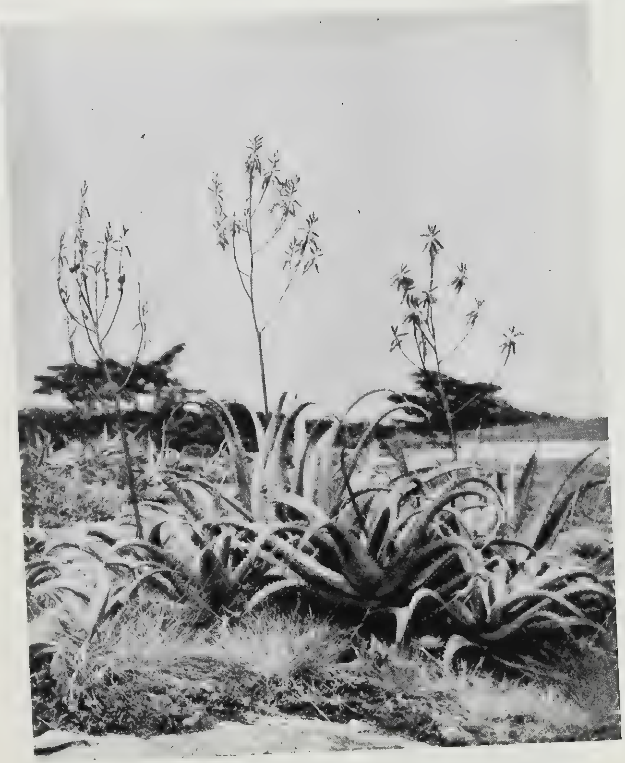

Fig. 1.

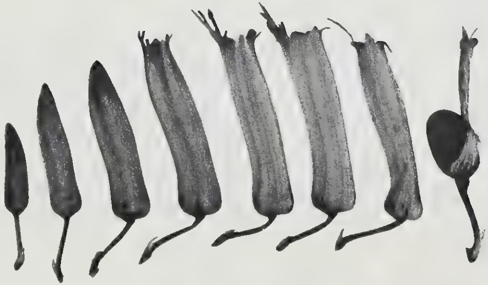

Fig. 2.

Fig. 1. Plants between Aba and the Sudan border, Oriental Prov., Kibali-Ituri Dist., Belgian Congo. Fl. 13 July, 1954. Height 85 cm.

Fig. 2. Flowers 1/1 from bud to post-pollination stage.

Plate XI. *Aloe Schweinfurthii* Bak.